

# Beyond Meaningful Use

AIRA Presentation

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Standards & Interoperability

← → ↻ wiki.siframework.org/S%26I+Initiative+Overview%2C+Phases+and+Outputs ☆ ☰

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Wiki Home






Recent Changes

Pages and Files

Members

Calendar

Contact



General Information

Introduction & Overview

Processes & Guidelines

Committed Members

Getting Started as a Participant

Community Enabling Toolkit (CET)

April Face-to-Face (F2F) Info

FAQs

Wiki User Guide

S&I Initiative Overview, Phases and Outputs


Initiative Overview, Outputs & Phases

Steering & Consensus Process

Community Participation

IPR Policy

Wiki Use Guidelines



The reader is advised to read the [S&I Framework Introduction](#) before reading the [Initiative Overview, Phases and Outputs](#).

You may also return to the [Community Enabling Toolkit \(CET\)](#).

1. S&I Initiative

A Standards and Interoperability (S&I) Initiative is a project aimed to solve a particular challenge that hinders interoperability in the healthcare industry. The Initiative organizes work necessary for the development or evolution of S&I Framework deliverables. The Initiative has no formal status outside of that purpose. There are two types of Initiatives within the S&I Framework: Staff Assigned Initiatives and Community Assigned Initiatives.

1.1 Staff Assigned Initiatives


Staff Assigned Initiatives are Initiatives that have formal staff allocations by the [S&I Steering Team](#). The purpose of a Staff Assigned Initiative is to provide additional input and guidance to an area that the Office of the National Coordinator (ONC) and S&I Framework has determined to be an interoperability challenge.

1.2 Community Assigned Initiatives

Community Assigned Initiatives are Initiatives that do not have formal staff allocations by the [S&I Steering Team](#).

2. Initiative Terms and Definitions

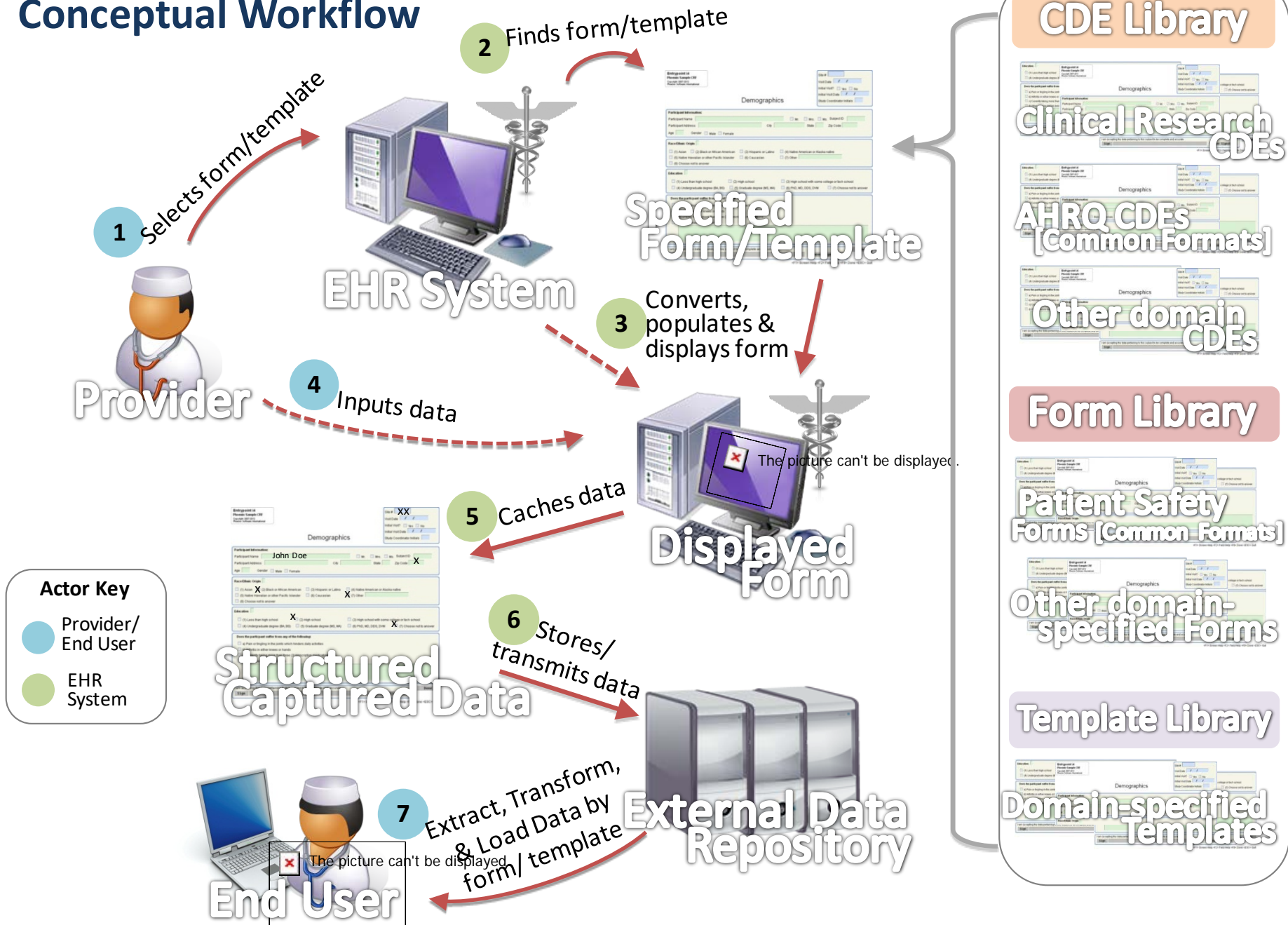
2.1 Initiative Charters



11:56 PM

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# Structured Data Capture Conceptual Workflow

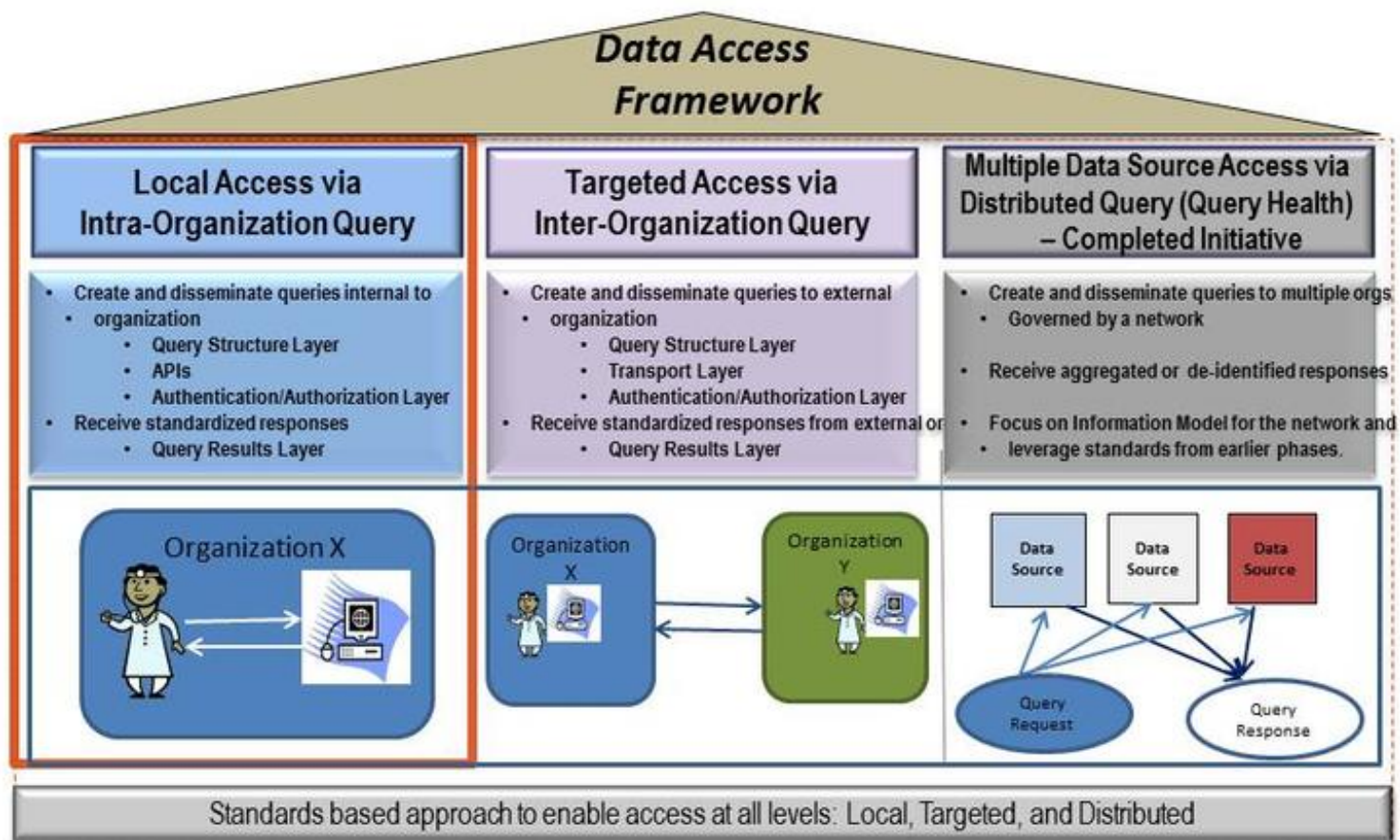


# Structured Data Capture Data Architecture

Infrastructure will consist of **four** new standards that will enable EHRs to capture and store structured data:

1. Standard for the CDEs that will be used to fill the specified forms or templates
2. Standard for the structure or design of the form or template (container)
3. Standard for how EHRs interact with the form or template
4. Standard to auto-populate form or template

- Standards will facilitate the collection of data so that any researcher, clinical trial sponsor, reporting and/or oversight entity can access and interpret the data in electronic format
- Will leverage existing standards such as XML and CDISC Retrieve Form for Data Capture (RFD)

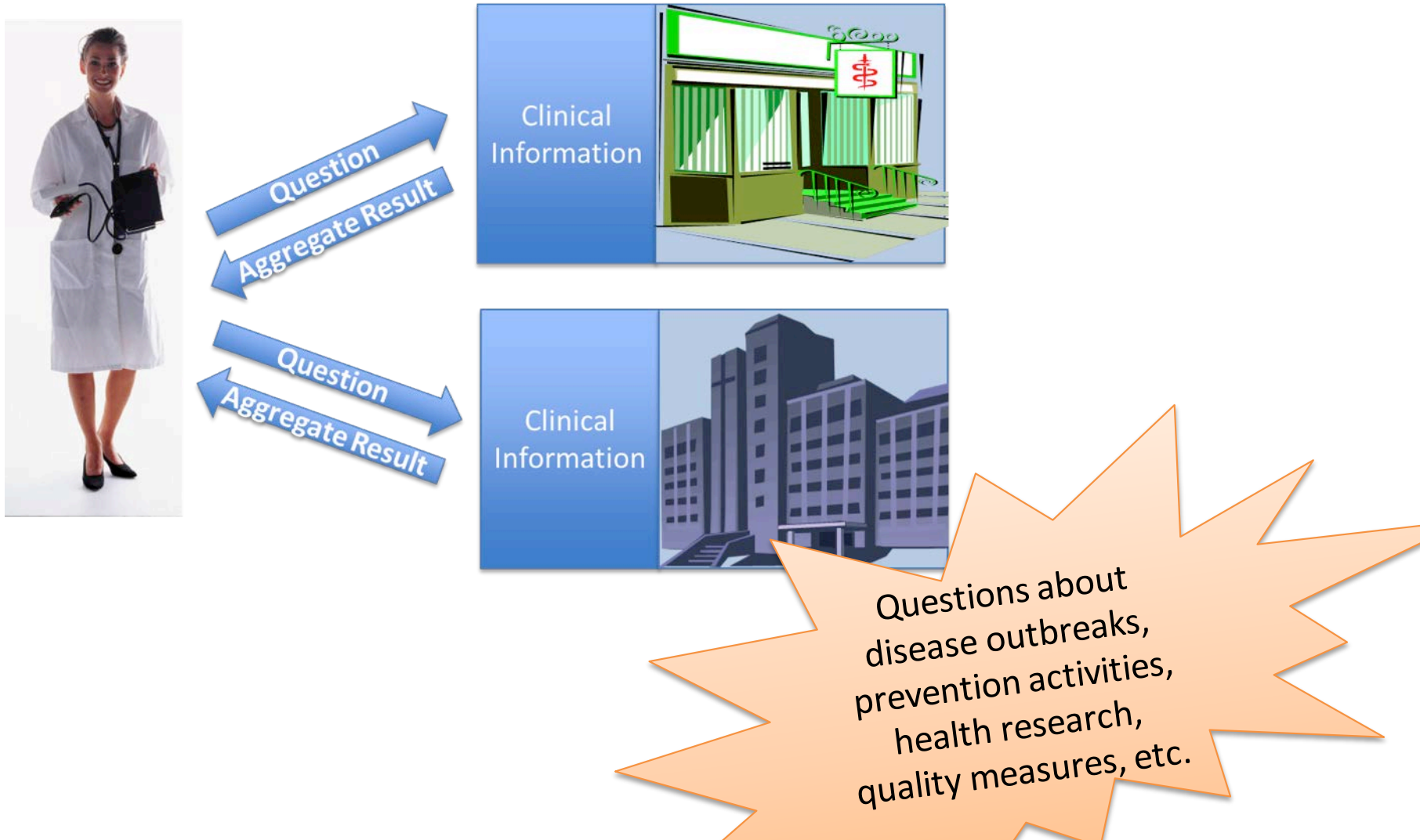


**Note:** An organization can be a hospital that is part of larger organization and can also include HIEs, RIOs, other types of organizations etc.

# Data Access Framework

- **Transport Layer** —establishing a protocol for getting patient data from one place to another.
- **Security Layer** —ensuring that patient data will only be accessible to authorized parties.
- **Query Structure** —making sure the “question” being asked is phrased appropriately for the data to answer it. “Questions” could include “what were the pathology results of this patient’s last test” and “how many immunizations has this clinic provided each month in the past year.”
- **Query Results** —appropriately formatting the “answer” to the question posed. Pathology results may need to conform to clinical document architecture, while an answer about immunization counts could be presented as a simple bar graph.
- **Data Model to Support Queries** —information models that define concepts used in clinical care.

# Distributed queries unambiguously define a population from a larger set



# The Data

## Clinical Element Data Dictionary

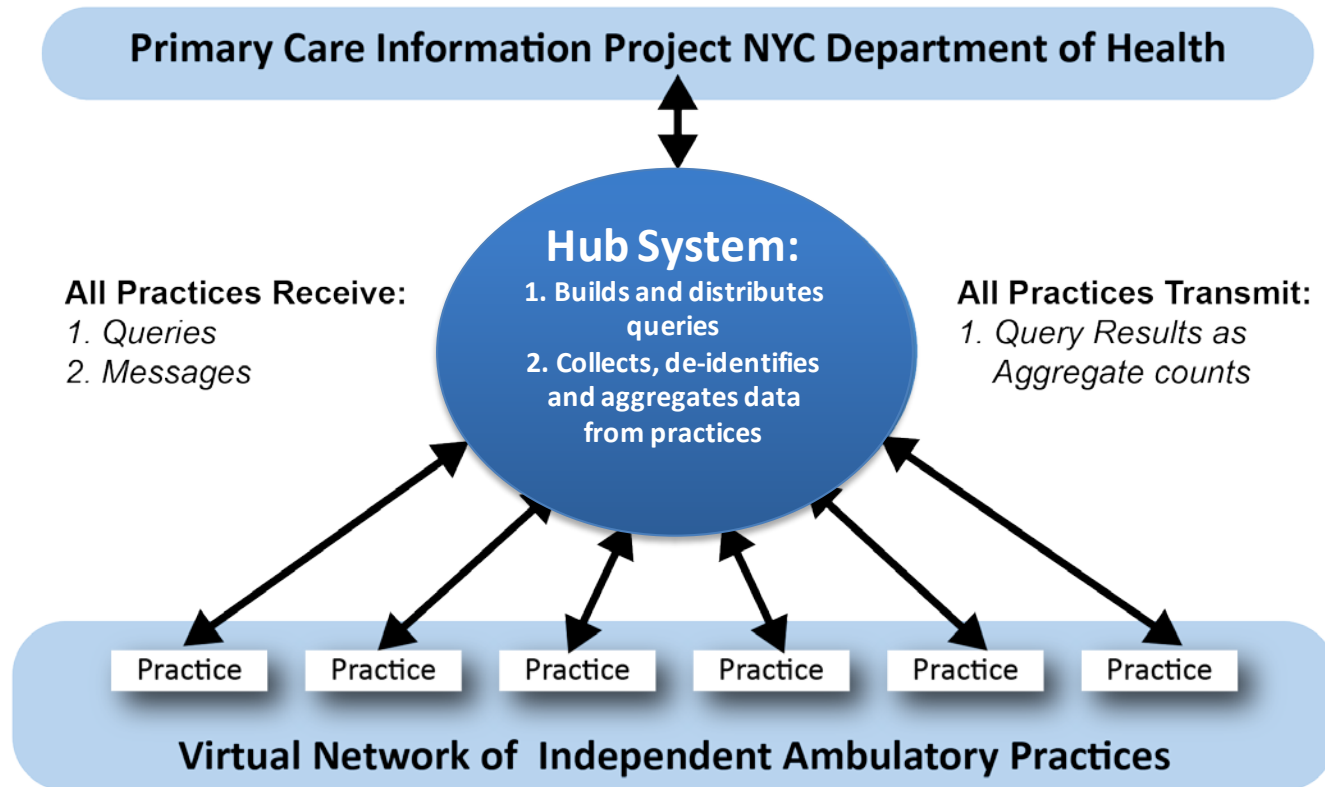
- Demographic
- Patient Contact Information
- Payer Information
- Healthcare Provider
- Allergies & Adverse Reactions
- Encounter
- Surgery
- Diagnosis
- Medication
- Procedure
- Immunization
- Advance Directive
- Vital Signs
- Physical Exam
- Family History
- Social History
- Order
- Result
- Medical Equipment
- Care Setting
- Enrollment
- Facility

- Standards independent dictionary
- Aligned with QDM
- Built for flexible response to evolving standards (e.g., CIMI)



**Active Query Health Pilots:**  
**New York City Primary Care Information**  
**Project (PCIP)**  
**Massachusetts Department of Public Health**

# Active Pilot- New York City

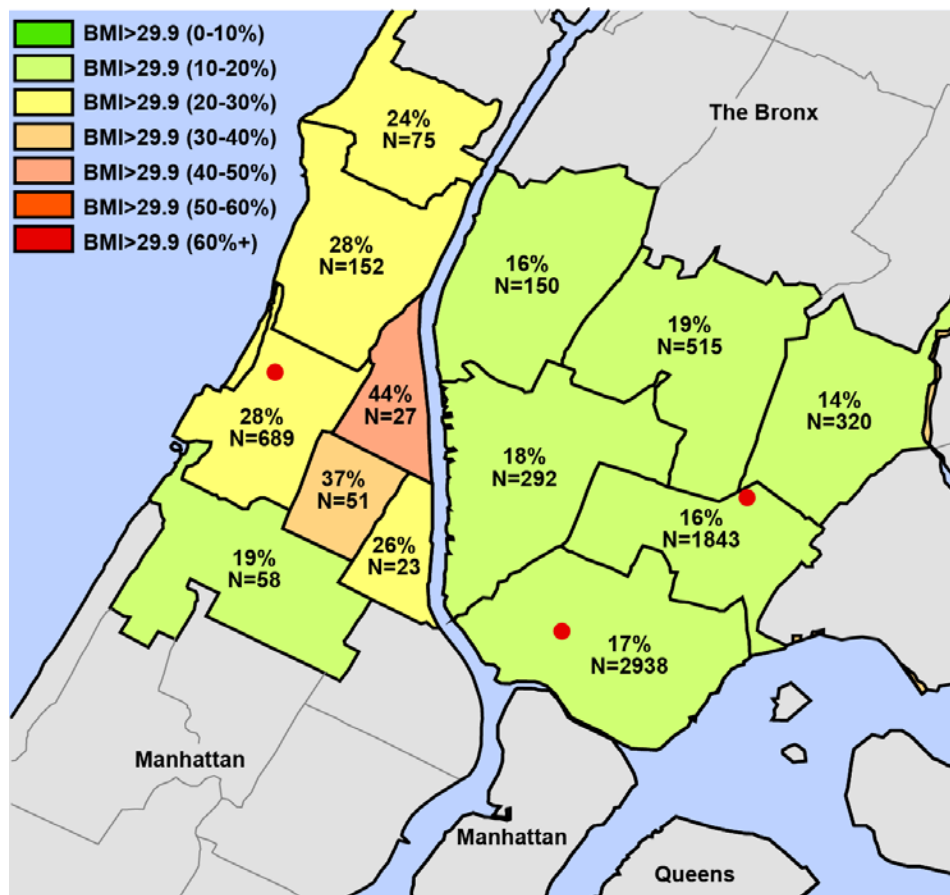


# Active Pilot- New York City

- **Overseen by:** Primary Care Information Project (PCIP)
    - Bureau within the Department of Health and Mental Hygiene
  - Queries sent through **network data partner:** New York City Hub Health System
  - **Data Sources:** EHRs from 751 total practices, 4207 providers, >2.5M patients
  - **Goals:** to expand population health monitoring in New York City to improve understanding of
    - population health quality/performance measures
    - chronic disease trends (diabetes, hypertension)
    - infectious disease outbreaks
- And to:**
- incorporate the essential technical and operational elements from the Query Health pilot project into the statewide health information exchange architecture— SHIN-NY



# Obesity Prevalence in the NYC Pilot



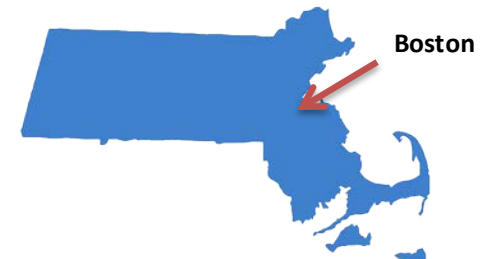
Buck, Michael. "Population Health Transformation Using Data-Driven Distributed Analytics." *HIMSS12* (2012): n. pag. Web. 10 Oct. 2013. <[http://69.59.162.218/HIMSS2012/Venetian%20Sands%20Expo%20Center/2.22.12\\_Wed/Lido%203103/Wed\\_1415/124\\_Michael\\_Buck\\_Lido%203103/124BuckPowell.pdf](http://69.59.162.218/HIMSS2012/Venetian%20Sands%20Expo%20Center/2.22.12_Wed/Lido%203103/Wed_1415/124_Michael_Buck_Lido%203103/124BuckPowell.pdf)>.

**Active Query Health Pilots:**  
**Massachusetts Department of Public**  
**Health**

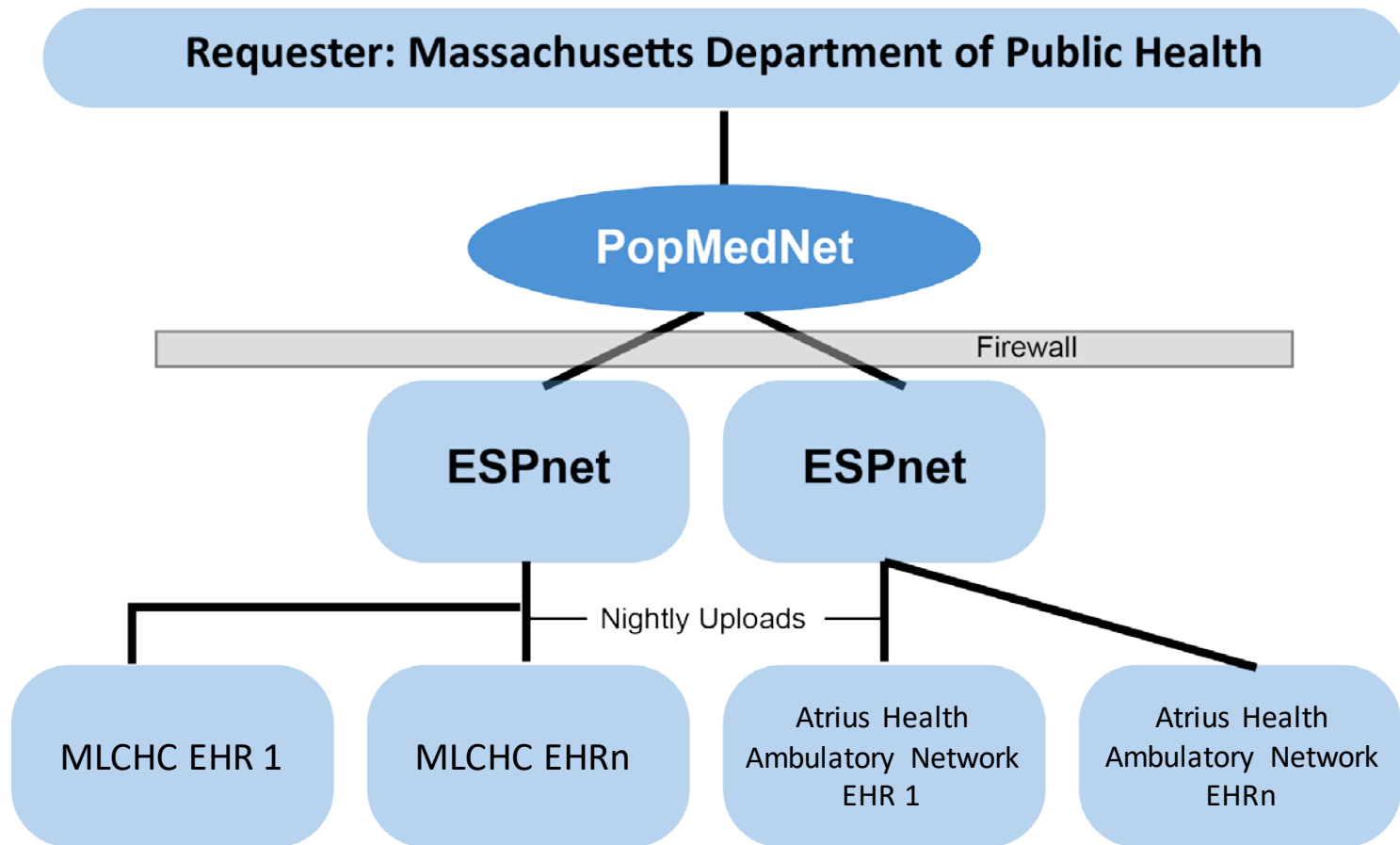
# Massachusetts

- **Overseen by Massachusetts Department of Public Health Network**
- **ONC Funded Challenge Grant**
- (MDPHnet)
  - MDPHnet is a project of Massachusetts eHealth Institute
- **Network data partners:**
  - Electronic Medical Record Support for Public Health (ESP)
  - PopMedNet (PMN)
- **Participants:**
  - Massachusetts League of Community Health Centers (MLCHC)
  - Atrius Health
  - 1000+ physicians serving more than 1 million patients
- **Goals:** to improve population health statewide through improved quality and performance measures.
  - Initial Foci: diabetes and influenza like illness (ILI) surveillance

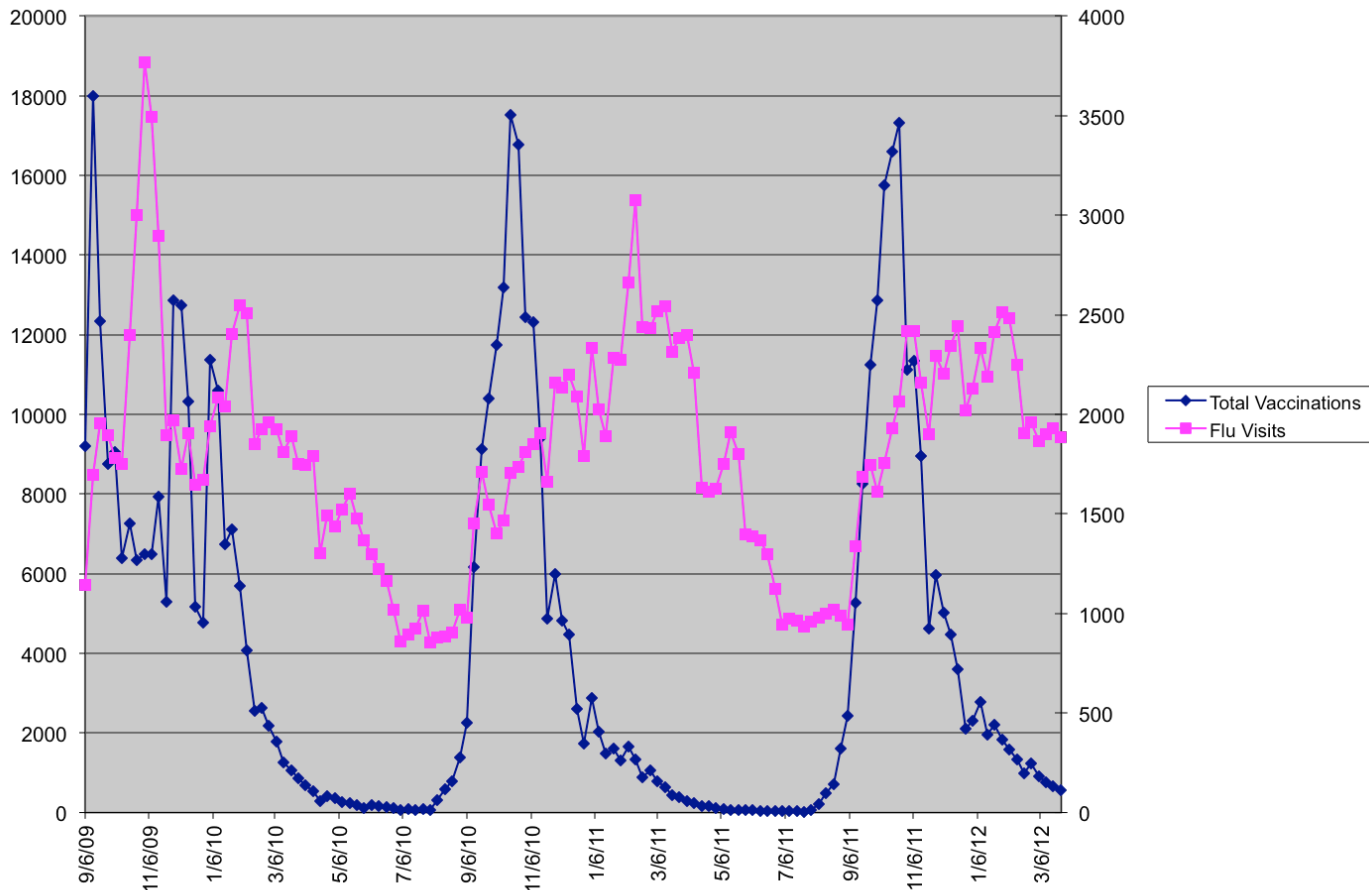
<http://mehi.masstech.org/what-we-do/hie/mdphnet/popmednet>  
<http://wiki.siframework.org/Query+Health+Pilots+Team>



# Active Pilot- Massachusetts



# Total Number of Flu Vaccinations and ILI Visits September 2009-March 2012

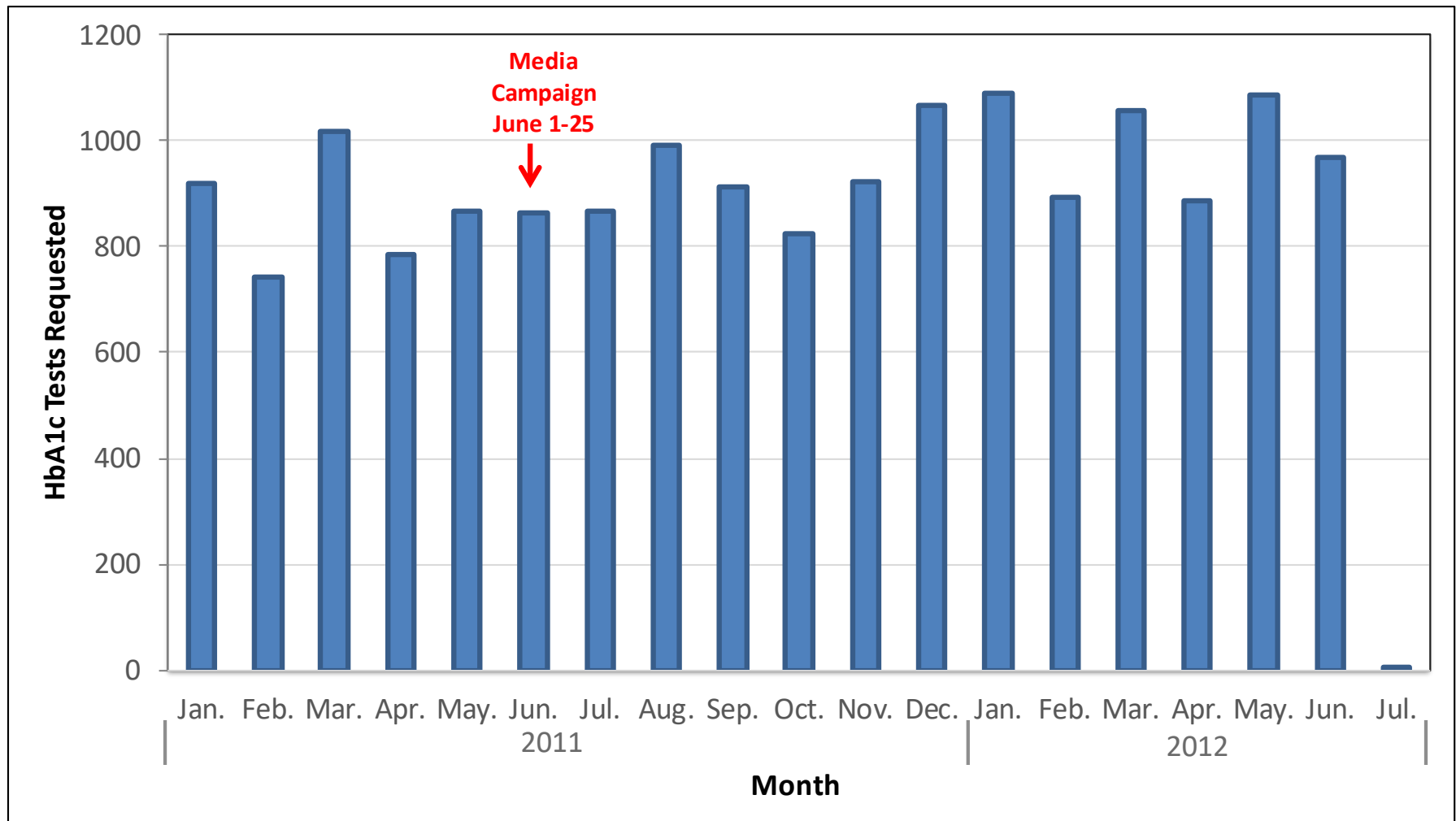


# Gestational Diabetes

- Outreach to encourage pregnant women to get tested for gestational diabetes mellitus (GDM)
- Massachusetts State
- June 1-25, 2011: Media campaign
- Collect aggregated data via Query Health before and after the campaign
  - Massachusetts League of Community Health
  - Atrius Health
- Use the number of HbA1c tests requested per month as a way to assess the campaign's effectiveness



# Number of HbA1c Tests Requested from Atrius Health, January 2011- July 2012



# Conceptual Use Case Diagram: CDS Guidance Service Diagram (Use Case 2)



**CDS Guidance Requestor**



**CDS Guidance Supplier**

## Out of Scope

- Workflow Integration
- User Presentation
- Direct Interaction with the User
- How the Guidance Integrator will utilize the information
- Deciding what guidance is subscribed to

**CDS Request**  
(*patient data + context*)

**CDS Guidance**  
(*guidance + service structure*)

## Out of Scope

- Authoring, Creation and Maintenance of Clinical Decision Support Knowledge
- Internal Intervention Format of CDS services supplier

## In Scope

- Interface Definitions for Sending Patient Data & CDS Guidance
  - Patient Data Input to Service
  - Format of the CDS Guidance (output from CDS service)
  - Requirements to Support Service Transactions, Transport & Security